OSCAM Navy Suite v8.2 Ship Model
Data Guide and Historical Dataset Reference

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Edition 3.0

Ship Data Definitions

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Introduction

This document is intended to provide information about the inputs to the OSCAM Navy Suite, Ship Model and the historical data used to populate the historical datasets. This version of the user guide is specific to OSCAM Ship v8.2 and the FY14 datasets.

Each input to the model is described in this document. Inputs can be found by sector and number. For each input the following information is provided:
- A definition of the input
- Units in which input is measured
- Data Source
- Historical Dataset Methodology
- Inflation Index for cost inputs
- Specific notes about the input (if required)

The FY14 OSCAM Ship historical datasets are the most recent set of historical datasets published. The datasets contain information from VAMOSC for any year that data is available on a particular ship class. VAMOSC data elements are referenced throughout this document. For more information on any of the VAMOSC data elements, download the user guide for the respective universes from the VAMOSC website, https://www.vamosc.navy.mil.

Other data sources for the datasets include: Maintenance and Material Management (3-M) via OARS (Open Architecture Retrieval System), the Program Objectives Memorandum 13 OPNAVNOTE 4700 Maintenance document dated 18 July 2013, and NCCA FY14 Inflation Indices.

The FY14 historical datasets are kept in two databases that are categorized by ship status. The status may be active or inactive. Any ship class that does not have VAMOSC data in FY12 has been categorized as inactive. Table 1 below shows how each ship class is categorized in the FY14 historical datasets, as well as what years of information are used from the various data sources. This guide pertains to the development of the ships with an active status. Inactive ship datasets are escalated from their latest released dataset, thus may not reflect the latest methodologies incorporated into the active datasets.

Table 1: Basic Ship Information

Ship Class	Ship Category	Active/ Inactive	VAMOSC data years****	OARS 3-M data years*	OPNAV 4700 year
AD-14	Support	Inactive	FY84-93	FY90-94	N/A
AD-37	Support	Inactive	FY84-95	FY90-95	N/A
AD-41	Support	Inactive	FY84-95	FY90-97	N/A
AE-21	Support	Inactive	FY84-94	FY90-97	N/A
AE-23	Support	Inactive	FY84-94	FY90-97	N/A
AE-26	Support	Inactive	FY84-99	FY92-97	1996
AFS-1	Support	Inactive	FY84-94	FY90-94	N/A
AGDS-2	Support	Inactive	FY84-86	FY90-97	N/A
AGF-11	Support	Inactive	FY84-05	FY96-05	2006
AGF-3	Support	Inactive	FY84-05	FY96-05	2003 (FDNF)
AGSS-555	Submarine	Inactive	FY84-07	FY98-07	2006
AO-177	Support	Inactive	FY84-99	FY91-99	1996
AO-51	Support	Inactive	FY84-89	No Report	N/A

Ship Class	Ship Category	Active/ Inactive	VAMOSC data years****	OARS 3-M data years*	OPNAV 4700 year
AOE-1	Support	Inactive	FY84-06	FY96-05	2004
AOE-6	Support	Inactive	FY95-04	FY95-04	2003
AOR-1	Support	Inactive	FY84-95	FY90-97	1996
AR-5	Support	Inactive	FY84-94	FY90-95	N/A
ARL-1	Support	Inactive	FY86-88	No Report	N/A
ARS-38	Support	Inactive	FY84-93	FY90-97	N/A
ARS-50	Support	Inactive	FY86-07	FY98-07	2005
ARS-6	Support	Inactive	FY88	FY90-97	N/A
AS-11	Support	Inactive	FY84-92	FY90-94	N/A
AS-19	Support	Inactive	FY84-91	FY90-92	N/A
AS-31	Support	Inactive	FY84-95	FY90-97	N/A
AS-33	Support	Inactive	FY84-99	FY92-99	1996
AS-36	Support	Inactive	FY84-95	FY90-97	N/A
AS-39	Support	Inactive	FY84-10	FY01-10	2009
ASR-21	Support	Inactive	FY84-94	FY90-97	N/A
ASR-7	Support	Inactive	FY84-93	FY90-97	N/A
ATF-148	Support	Inactive	FY89-91	FY90-92	N/A
ATS-1	Support	Inactive	FY84-95	FY90-96	N/A
AVM-1	Support	Inactive	FY84-86	No Report	N/A
AVT-16	Carrier	Inactive	FY84-91	FY90-97	N/A
AVT-59	Carrier	Inactive	FY92	FY90-97	N/A
BB-61	Combatant	Inactive	FY84-91	FY90-97	N/A
CG-16	Combatant	Inactive	FY84-94	FY90-97	N/A
CG-26	Combatant	Inactive	FY84-94	FY90-97	N/A
CG-47	Combatant	Active	FY84-12	FY02-11	2013
CGN-25	Combatant	Inactive	FY84-95	FY90-96	N/A
CGN-35	Combatant	Inactive	FY84-94	FY90-97	N/A
CGN-36	Combatant	Inactive	FY84-99	FY91-99	1996
CGN-38	Combatant	Inactive	FY84-98	FY90-98	1996
CGN-9	Combatant	Inactive	FY84-93	FY90-97	N/A
CV-41	Carrier	Inactive	FY84-91	FY91-97	N/A
CV-59	Carrier	Inactive	FY84-98	FY91-98	N/A
CV-63	Carrier	Inactive	FY84-09	FY00-09	2007
CV-67	Carrier	Inactive	FY84-94; FY98-07	FY98-07	2004
CVN-65	Carrier	Active	FY84-12	FY02-11	2013
CVN-68	Carrier	Active	FY84-12	FY02-11	2013
DD-963	Combatant	Inactive	FY84-05	FY96-05	2004
DDG-2	Combatant	Inactive	FY84-92	FY90-97	N/A
DDG-37	Combatant	Inactive	FY84-92	FY90-94	N/A
DDG-51	Combatant	Active	FY92-12	FY02-11	2013
DDG-51 Flight 1	Combatant	Active	FY92-12	FY02-11	2013
DDG-51 Flight 2	Combatant	Active	FY98-12	FY02-11	2013
DDG-51 Flight 2A	Combatant	Active	FY00-12	FY02-11	2013
DDG-993	Combatant	Inactive	FY84-99	FY92-99	1996
FF-1037	Combatant	Inactive	FY84-90	FY90-92	N/A
FF-1040	Combatant	Inactive	FY84-88	No Report	N/A
FF-1052	Combatant	Inactive	FY84-92	FY90-92	NA
FF-1098	Combatant	Inactive	FY84-89	FY90-96	N/A
FFG-1	Combatant	Inactive	FY84-88	No Report	N/A
FFG-7	Combatant	Active	FY84-12	FY02-11	2013
LCC-19	Amphib	Active	FY84-12	FY02-11	2013
LCS-1 LM	Combatant	Active	FY09-12	FY09-11	2013
LCS-2 GD	Combatant	Active	FY10-12	FY10-11	2013
LHA-1	Amphib	Active	FY84-12	FY02-11	2013

Ship Class	Ship Category	Active/ Inactive	VAMOSC data years****	OARS 3-M data years*	OPNAV 4700 year
LHD-1	Amphib	Active	FY90-12	FY02-11**	2013
LHD-1 to 7	Amphib	Active	FY90-12	FY02-11**	2013
LHD-8	Amphib	Active	FY10-12	FY02-11**	2013
LKA-113	Amphib	Inactive	FY84-93	FY90-97	N/A
LPD-17	Amphib	Active	FY06-12	FY06-11	2013
LPD-1	Amphib	Inactive	FY84-91	FY90-97	N/A
LPD-4	Amphib	Active	FY84-12	FY02-11	2013
LPH-2	Amphib	Inactive	FY84-98	FY92-98	1996
LSD-28	Amphib	Inactive	FY84-89	FY90-97	N/A
LSD-36	Amphib	Inactive	FY84-04	FY94-03	2003
LSD-41	Amphib	Active	FY86-12	FY02-11	2013
LSD-49	Amphib	Active	FY96-12	FY02-11	2013
LST-1179	Amphib	Inactive	FY84-94; FY98-03	FY93-02	2000
MCM-1	Mine Warfare	Active	FY88-12	FY02-11	2013
MCS-12	Mine Warfare	Inactive	FY98-02	No Report	2000
MHC-51	Mine Warfare	Inactive	FY94-08	FY99-08	2005
MSO-422	Mine Warfare	Inactive	FY84-92	FY90-93	N/A
PC-1	Patrol	Active	FY03-12	FY03-11	2013
PHM-1	Patrol	Inactive	FY84-92	No Report	N/A
SS-576	Submarine	Inactive	FY84-89	FY91	N/A
SS-580	Submarine	Inactive	FY84-90	FY91	N/A
SSBN-598	Submarine	Inactive	FY84	No Report	N/A
SSBN-616	Submarine	Inactive	FY84-93	FY91-94	N/A
SSBN-627	Submarine	Inactive	FY84-94	FY91-94	N/A
SSBN-640	Submarine	Inactive	FY84-94	FY91-94	N/A
SSBN-726	Submarine	Active	FY84-12	FY02-11	2013
SSGN-726	Submarine	Active	FY03-12	FY03-11	2013
SSN-21	Submarine	Active	FY98-12	FY02-11	2013
SSN-575	Submarine	Inactive	FY84-86	No Report	N/A
SSN-578	Submarine	Inactive	FY84-88	No Report	N/A
SSN-585	Submarine	Inactive	FY84-89	FY91	N/A
SSN-594	Submarine	Inactive	FY84-95	FY91-96	N/A
SSN-597	Submarine	Inactive	FY84-87	No Report	N/A
SSN-608	Submarine	Inactive	FY84-91	FY91-94	N/A
SSN-637	Submarine	Inactive	FY84-05	FY96-05	N/A
SSN-640	Submarine	Inactive	FY92-02	FY92-01	N/A
SSN-671	Submarine	Inactive	FY84-99	FY91-99	N/A
SSN-685	Submarine	Inactive	FY84-89	No Report	N/A
SSN-688	Submarine	Active	FY84-12	FY02-11	2013
SSN-688 Group 1	Submarine	Active	FY84-12	FY02-11	2013
SSN-688 Group 2	Submarine	Active	FY86-12	FY02-11	2013
SSN-688 Group 3	Submarine	Active	FY89-12	FY02-11	2013
SSN-688 Group 4	Submarine	Active	FY94-12	FY02-11	2013
SSN-774	Submarine	Active	FY05-12	FY05-11	2013

*There is a 1 year lag in the update of the OARS data. This means that for the FY14 Ship historical datasets, all OARS data reflects FY02-FY11 (as available by ship class). The reason for this change is due to the fact that the VAMOSC and OSCAM program teams have discovered that the OARS data becomes more reliable and accurate after a year due to ongoing processing done by the OARS team. In order to use the best possible data in the historical datasets, the team felt it was worth it to delay adding the most current year of data until one year later.

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**OARS 3-M data is provided in the aggregate for the LHD-1 Class. Therefore, all three LHD datasets use the same data.

***As discussed in future sections of this guide, for OSCAM personnel-related inputs, the last five years (2008-2012) is chosen as the historical VAMOSC data subset. For all other inputs, all available years of VAMOSC is used as indicated in the table above.

Profile

Introduction & Disposal

Start Year for Program (Fiscal Year)

    <u>Definition</u>: Enter the starting fiscal year for the program. All time profiles on input forms will be changed to start from this year. Fiscal years run from October through September.

    <u>Data Source</u>: N/A

    <u>Historical dataset methodology</u>: Historical datasets assume a start year of 2012.

PP1 - Ship Service Life (Yrs)

    <u>Definition</u>: The expected life of the platform, in years.

    <u>Data Source</u>: Assumption

    <u>Historical dataset methodology</u>: Historical datasets assume a default value of 35 years. Exceptions to this assumption are listed in Table 2 below, which are set to match the Ship Life found in the OPNAVNOTE 4700, if available and/or analyst judgment.

Table 2: Ship Life Exceptions

Ship	Life (yrs.)
CG-47	40
CVN-65	50
CVN-68	50
DDG-51	40
DDG-51 FLT IIA	40
LCS-1	25
LCS-2	24
LHD-1	40
LHD 1 to 7	40
LHD-8	40
LPD-17	40
LPD-4	40
LSD-41	40
LSD-49	40
MCM-1	30
SSBN-726	43.25
SSGN-726	20
SSN-21	30
SSN-688	22
SSN-688 Group 1	22

SSN-688 Group 2	22
SSN-688 Group 3	22
SSN-688 Group 4	22
SSN-774	33

PP2 - Light Ship Disposal Weight (LT)

Definition: The Light Ship Displacement weight of the platform, in long tons, when it enters service. Light ship displacement is the weight of the ship without fuel, water, or ammunition.

Data Source: www.nvr.navy.mil

Historical dataset methodology: Direct input from the Naval Vessel Registry for the first ship of the class. For the DDG-51 and SSN-688 classes, the light displacement of the first hull of each flight or group was used, as shown in Table 3 below.

Table 3: Flights and Groups

Group	Reference Hull	Hulls in Group
DDG-51 FLT I	DDG-51	DDG-51 to 71
DDG-51 FLT II	DDG-72	DDG-72 to 78
DDG-51 FLT IIA	DDG-79	DDG-79 to 106
SSN-688 Group 1	SSN-688	SSN-688 to 718
SSN-688 Group 2	SSN-719	SSN-719 to 725, SSN-750
SSN-688 Group 3	SSN-751	SSN-751 to 762
SSN-688 Group 4	SSN-763	SSN-763 to 773

NVR states, "Light Displacement is measured in LONG TONS (2240 lbs.) except for the LPD-17 Class, MHC-51 Class, DDX Class and LCS Class which are measured in METRIC TONS (2204.9 lbs.)." Therefore, only for the classes LPD-17, and LCS-1, a conversion ratio of 1 metric ton to 0.984206528 long tons was applied. DDX refers to DDG-1000, which is not part of the datasets, thus, no conversion was used for any of the "DD" classes.

PP3 - Disposal Cost ($K/LT)

Definition: The cost of disposal of the platform in $K per long ton. This value can be set as a negative number if the ship is expected to be sold vice disposed.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

NOTE: This input is only necessary if disposal costs are going to be estimated.

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PP4 – End of Service Life Cost ($K/Ship)

Definition: The cost incurred at the end of the service life of the platform that is unrelated to weight. This value can be set as a negative number if the ship is expected to be sold vice disposed.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

Operational Profile

The 5 inputs below exist as right click functionality when modifying an availability in the Operational Profile window. These attributes are set individually for each availability placed on the table.

1. Availability Type:
    Definition: The type of availability to be performed.

    Data Source: OPNAVNOTE 4700

    Historical dataset methodology*: OSCAM can store up to 9 availability types for each ship class. A number is assigned for each availability type listed in the OPNAVNOTE 4700.

2. Duration (Months):
    Definition: Number of months required to complete the availability type. OSCAM populates this input using what the users enters for DM11, DM47, DM83, DM119, DM155, DM191, DM227, DM263, and DM299. These inputs are defined in this guide under the "Depot Maintenance" sector.

    Data Source: OPNAVNOTE 4700

    Historical dataset methodology*: Maintenance profiles and schedules are outlined in OPNAVNOTE 4700 and vary between ships.

3. Availability Start Time (Month):
    Definition: The planned time scheduled for the availability defined as months after fleet introduction.

    Data Source: OPNAVNOTE 4700

    Historical dataset methodology*: Maintenance profiles and schedules are outlined in OPNAVNOTE 4700 and vary between ships.

4. Modernization Factor:
    Definition: A modernization factor can be set for each Availability Period. This is used to multiply the standard Modernization Cost (Moderate), Modernization Labor Effort (Detailed), Modernization Material Cost (Detailed) and CPM Cost for the Activity Type.

Data Source: Assumption

Historical dataset methodology*: Historical datasets assume a default value of 1.00.

5. Repair Factor:
   Definition: A repair factor can be set for each Availability Period. This is used to multiply the standard Repair Cost (Moderate), Repair Labor Effort (Detailed) and Repair Material Cost (Detailed) for the Activity Type.

   Data Source: Assumption

   Historical dataset methodology*: Historical datasets assume a default value of 1.00.

* For some classes, exceptions to the methodologies above have been made.
   Due to OSCAM rounding limitations or the cost analyst's judgment, the following methodologies described below have been applied. OSCAM requires whole numbers for Availability Duration and Availability Start Month, thus rounding has been applied to the OPNAVNOTE 4700 guidance when applicable.
   OSCAM allows up to nine availability types. For certain ship classes, in instances in which the OPNAVNOTE 4700 lists more than nine availability types, some availability names have been combined with differences in scope noted by populating relative repair factors in the dataset.
   Additional notes pertaining to specific datasets are provided below:

CVN-65: The CVN-68 schedule listed in the 2013 OPNAVNOTE 4700 is used for CVN-65 due to the age of the CVN-65.

LHD-1: The LHD-1 class and LHD-1 to 7 datasets use the "LHD 1" availability schedule in the OPNAVNOTE 4700. LHD-8 is a separate profile in the OPNAVNOTE 4700.

LHD-8: The OPNAVNOTE 4700 provides a separate availability schedule for LHD-8 from the LHD-1 class because of its different propulsion system.

SSN-21: The OPNAVNOTE 4700 provides schedules for each of the hulls of this class: SSN-21, SSN-22, and SSN-23. None of the schedules provides the timing of the end of service. However, the profile for SSN-23 has not changed from the 2010 OPNAVNOTE 4700, which lists an end of service life of month 360. Therefore, the profile for SSN-23 with an assumed service life of 30 years is used for this class' dataset.

SSN-688: This class uses the same profile as SSN-688 Groups 2 and 3.

SSN-688 Group 1 (2013): The 2013 OPNAVNOTE 4700 schedule does not present a complete service life. Therefore, the 2013 OPNAVNOTE 4700 schedule for SSN 719-762 is used, which is the same profile used for the SSN-688 Group 2 and SSN-688 Group 3 datasets.

SSN-774: The dataset uses the OPNAVNOTE 4700 profile for hulls SSN 776-781.

Operations

Fuel

OP1 – Direct Fuel Cost ($K/Bbl)

Definition: The direct cost per barrel of fuel. The Defense Energy Supply Center (DESC) direct fuel cost includes costs for: crude, oil, refinement, transportation to the DESC facility, facility/operations, and mark-up.

Data Source: Defense Energy Supply Center (DESC)

Historical dataset methodology: This cost is based on most current DESC price available at the time the datasets are published, as obtained through NAVSEA 05C guidance.

Inflation index: Fuel

Note: Cost shown reflects the direct cost and the value should not be considered to be the fully burdened cost of fuel.

OP2 – Indirect Fuel Cost ($K/Bbl)

Definition: Indirect costs per barrel of fuel. Indirect costs may include: storage and handling, fuel delivery to the platform, and environmental impacts.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

OP3 - Other POL Cost ($K/Ship/Mth IFT)

Definition: The cost of any other POL (Petroleum, Oil, and Lubricant) consumed by the platform.

Data Source: VAMOSC Ships Universe and OPNAVNOTE 4700

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data. Schedules of entire maintenance cycles are outlined in the OPNAVNOTE 4700 corresponding to each ship class. The information in the schedule is used to find the value of (Months in Overhaul / Months in Service Life). If the schedule is not listed in the OPNAVNOTE 4700, then the average value of (Months in Overhaul / Months in Service Life) of all ships listed in the OPNAVNOTE 4700 is used in the following formula.

$$\text{Other POL \$K/ship/month IFT} = \frac{\text{VAMOSC Element l.2.1.2 POL - Other}}{\text{VAMOSC Element A.0 Number of Ships}} \times \frac{1}{12 \times \left(1 - \dfrac{\text{Months in Overhaul}}{\text{Months in Service Life}}\right)}$$

Inflation index: Fuel

Fuel – Underway Option

OP4 - % of IFT Steaming Underway (%)

Definition: Percentage of time the platform is steaming underway while In Fleet Time (IFT). E.g., a value of 45 indicates that outside of any time spent in depot, the platform will spend 45% of its time underway.

Data Source: VAMOSC Ships Universe and OPNAVNOTE 4700

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\% \ IFT \ Steaming \ Underway = \frac{VAMOSC \ Element \ E.1 \ Steaming \ Hours \ Underway / A.0 \ Number \ of \ Ships \ or \ Systems}{Hours \ per \ Year \ IFT}$$

Hours per Year IFT is provided by the equation below. See the historical dataset methodology for input OP3 above for guidance on how to calculate (Months in Overhaul / Months in Service Life).

$$Hours/year \ IFT = \left(1 - \frac{Months \ in \ Overhaul}{Months \ in \ Service \ Life}\right) \times 8{,}760$$

OP5 - % of IFT Steaming Not Underway (%)

Definition: Percentage of time the platform is steaming not underway on own power while IFT. E.g., a value of 30 indicates that outside of any time spent in depot the platform will spend 30% of its time steaming not underway on own power.

Data Source: VAMOSC Ships Universe and OPNAVNOTE 4700

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\% \ IFT \ Steaming \ Not \ Underway = \frac{VAMOSC \ Element \ E.2 \ Steaming \ Hrs \ Not \ Underway / A.0 \ Num. \ of \ Ships \ or \ Systems}{Hours \ per \ Year \ IFT}$$

Hours per Year IFT is provided by the equation below. See the historical dataset methodology for input OP3 above for guidance on how to calculate (Months in Overhaul / Months in Service Life).

$$Hours/year \ IFT = \left(1 - \frac{Months \ in \ Overhaul}{Months \ in \ Service \ Life}\right) \times 8{,}760$$

OP6 - % of IFT Cold Iron (%)

Definition: Percentage of time the platform is not underway and on external power while IFT. This is calculated as 100% - (% of IFT Steaming Underway + % of IFT Steaming Not Underway).

Data Source: N/A

Historical dataset methodology: OSCAM automatically calculates this input based on inputs OP4 and OP5.

OP7 – Fuel Use Underway (Bbl/hr):

Definition: The number of barrels of fuel used by the platform per steaming hour underway.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data. VAMOSC Element F.1.1 represents Barrels DFM – underway, VAMOSC Element F.1.3 represents Barrels DFM – Auxiliary, VAMOSC Element F.2.1 represents Barrels JP5 – underway, and VAMOSC Element F.2.3 represents Barrels JP5 – Auxiliary.

$$\text{bbls of fuel/SHU} = \frac{\left[\text{VAMOSC Element F.1.1} + \text{VAMOSC Element F.1.3} + \text{VAMOSC Element F.2.1} + \text{VAMOSC Element F.2.3}\right]}{\text{VAMOSC Element E.1 Steaming Hours Underway}}$$

NOTE: It is assumed that barrels of fuel burned as auxiliary are part of fuel used while underway.

OP8 – Fuel Use Steaming Not Underway (Bbl/Hr)

Definition: The number of barrels of fuel used by the platform per steaming hour not underway on own power.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{bbls of fuel/SHNU} = \frac{\left[\text{VAMOSC Element F.1.2 Barrels DFM - Not Underway} + \text{VAMOSC Element F.2.2 Barrels JP5 - Not Underway}\right]}{\text{VAMOSC Element E.2 Steaming Hours Not Underway}}$$

Fuel – Deployment Option

OP9 – Dpl Steaming Underway (Days/Mth)

Definition: The number of steaming days per month IFT for deployed platforms. The text will be red if the values of inputs OP9, OP10 and OP11 add to more than 30.4167 (365/12).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP10 – Dpl Steaming Not UWay (Days/Mth)

Definition: The number of days per month IFT that the platform is steaming not underway but under own power for deployed platforms. The text will be red if the values of inputs OP9, OP10 and OP11 add to more than 30.4167 (365/12).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP11 – Dpl Cold Iron (Days/Mth)

Definition: The number of days per month IFT that the platform is not steaming while deployed using external power. Platforms in this state will have no fuel use. This value is automatically calculated so that inputs OP9, OP10, and OP11 add to 30.4167 (365/12).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP12 – Dpl Fuel Use Stm UWay (Bbl/Day)

Definition: The number of barrels of the platform's own fuel used per day when steaming underway while deployed.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP13 – Dpl Fuel Use Stm Not UWay (Bbl/Day)

Definition: The number of barrels of the platform's own fuel per day when steaming not underway but under own power while deployed.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP14 – N-Dpl Steaming Underway (Days/Mth)

Definition: The number of steaming days per month IFT for non-deployed platforms. The text will be red if the values of OP14, OP15 and OP16 add to more than 30.4167 (365/12).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP15 – N-Dpl Steaming Not UWay (Days/Mth)

Definition: The number of days per month IFT that the platform is steaming not underway on own power for non-deployed platforms. The text will be red if the values of OP14, OP15 and OP16 add to more than 30.4167 (365/12).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP16 – N-Dpl Cold Iron (Days/Mth)

Definition: The number of days per month IFT that the platform is not steaming while non-deployed but using external power. Platforms in this state will have no fuel use. This value is automatically calculated so that inputs OP14, OP15, and OP16 add to 30.4167 (365/12).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP17 – N-Dpl Fuel Use Stm UWay (Bbl/Day)

Definition: The number of barrels of the platform's own fuel used per day when steaming underway while non-deployed.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP18 – N-Dpl Fuel Use Stm NUWay (Bbl/Day)

Definition: The number of barrels of the platform's own fuel per day when steaming not underway but under own power while non-deployed.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

OP19 – Typical Deployment Duration (Mths)

Definition: The number of months in a typical deployment. This is used as a default when placing a deployment period on the Lifecycle Profile. The duration of an individual deployment period can be changed by right-clicking on the appropriate bar on the Operational Profile in the Program Profile Sector.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Other

OP20 - Supplies Cost ($K/Psn/Yr)

Definition: Includes all non-maintenance supplies and equipage used by the platform and the platform's crew. Examples include items relating to the health, safety, and welfare of the crew such as medical and dental supplies, fire protection suits, maps, clocks, etc.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the last five years (2008-2012) of VAMOSC data.

$$\text{Supplies \$/person/year} = \frac{\text{VAMOSC Element 1.2.3 Supplies}}{\text{VAMOSC Element C.0 Total Personnel}}$$

Inflation index: OMN Purchases

Note: This cost is applied to Officers and Enlisted personnel equally.

OP21 - Publications Cost ($K/Ship/year)

Definition: Cost of replenishing publications, forms, and directives ordered by the platform. Publications include technical manuals and other platform systems' documentation as part of the platform's Publications Allowance List.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Pubs \$/Ship/year} = \frac{\text{VAMOSC Element 4.2 Publications}}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OMN Purchases

OP22 – Purchased Services Cost ($K/Ship/year)

Definition: Annual cost of purchased services other than maintenance. Purchased services include: printing and copying services, ADP rental and contract services, rent, utilities, postal services, and telephone services.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Purchased Services \$/ship/year} = \frac{\text{VAMOSC Element 1.3 Purchased Services}}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OMN Purchases

OP23 – Purchased Serv Not UWay ($K/Hr)

Definition: Cost per steaming hour not underway or per hour cold iron of purchased services other than maintenance. Purchased services include: printing and copying services, ADP rental and contract services, rent, utilities, postal services, and telephone services.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

OP24 - Expendables Cost ($K/Ship/Yr)

Definition: Annual costs associated with expendable ordnance stores consumed by the platform in the course of normal peacetime operations (such as fire power demonstrations) and training exercises.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Expendables \$/ship/year} = \frac{\text{VAMOSC Element1.2.4 ExpendableStores}}{\text{VAMOSC ElementA.0 Numberof Ships}}$$

Inflation index: WPN

OP25 – Expend Cost IFT ($K/Ship/Mth IFT)

Definition: Costs per month IFT associated with expendable ordnance stores consumed by the platform in the course of normal peacetime operations (such as fire power demonstrations) and training exercises.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: WPN

OP26 – Expendables Cost UWay ($K/Hr)

Definition: Cost per steaming hour underway associated with expendable ordnance stores consumed by the platform in non-tactical operations (such as fire power demonstrations), training exercises, and test and evaluation.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: WPN

OP27 - Handling Cost ($K/Ship/Yr)

Definition: Cost of ammunition onload/offload transactions by CONUS weapons stations. Examples of ammunition handling are onload and offload required to replenish expended ordnance, offload ammunition reclassified as unserviceable, and transfer ammunition among platforms for stockpile management.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Handling \$/ship/year} = \frac{\text{VAMOSC Element 4.5 Ammunition Handling}}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OMNLF Comp

Personnel

Crew

PS1 – No of Crews per Ship (Crews/Ship)

Definition: The number of crews assigned to each platform. Number of crews affects number of personnel assigned to the platform, TAD, Training, and Indirect Support. However, supplies costs and maintenance hours are only affected by the number of crew when there is less than 1 crew per platform.

Data Source: N/A

Historical dataset methodology: Historical datasets assume a default value of 1.

PS2 - Temporary Additional Duty (TAD) ($K/Psn/Year)

Definition: Temporary Additional Duty costs of crew travel relating to training, administrative, or purposes such as homeport travel entitlement, crew rotation/deployment, and temp shore patrol. E.g., commercial transportation charges, rental vehicles, mileage, per diem, and incidental expenses.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the last five years (2008-2012) of VAMOSC data.

$$\text{TAD \$/person/year} = \frac{\text{VAMOSC Element 1.1.3 TAD}}{\text{VAMOSC Element C.0 Total Personnel}}$$

Inflation index: OMN Purchases

Note: This cost is applied to Officers and Enlisted personnel equally.

PS3 - Officer Crew (Psn/Crew)

Definition: The number of Officer personnel assigned to a single crew for the platform. Total crew assigned to the platform will be calculated using this number and input PS1 Number of Crews per Ship.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available last 5 years (2008-2012).

$$\text{\# officers/crew} = \frac{[\text{VAMOSC Element C.1.1 \# Officer Personnel- Navy} + \text{VAMOSC Element C.2.1 \# Officer Personnel- Marines}]}{\text{VAMOSC Element A.0 Number of Ships}}$$

Note: data pulled from VAMOSC accounts for all personnel assigned to a ship's UIC. Therefore, for non-traditionally crewed platforms (for example, SeaSwap or Blue/gold philosophies), the total reported in VAMOSC represents all crew members. If input PS1 is set to a value other than 1, the VAMOSC –based crew numbers may need to be adjusted to accurately represent the crew.

Note: For the PC-1 Class, an alternative data source, the VAMOSC Corporate Query "PC-1CL Rotational Crew AUICs- Personnel Costs," is used. The average number of officers for each rotational crew over the last five years (2008-2012) is used.

PS4 - WO Crew (Psn/Crew)

Definition: The number of Warrant Officer personnel assigned to a single crew for the platform. Total crew assigned to the platform will be calculated using this number and input PS1 Number of Crews per Ship.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note 1: Warrant Officer crew are accounted for as officer crew in VAMOSC data and are accordingly accounted for in input PS3 in the OSCAM Historical datasets.

Note 2: Data pulled from VAMOSC accounts for all personnel assigned to a ship's UIC. Therefore, for non-traditionally crewed platforms (for example, SeaSwap or Blue/gold philosophies), the total reported in VAMOSC represents all crew members. If input PS1 is set to a value other than 1, the VAMOSC –based crew numbers may need to be adjusted to accurately represent the crew.

PS5 - Enlisted Crew (Psn/Crew)

Definition: The number of Enlisted personnel assigned to a single crew for the platform. Total crew assigned to the platform will be calculated using this number and input PS1 Number of Crews per Ship.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available last 5 years (2008-2012).

$$\#enlisted/crew = \frac{[VAMOSC\ Element\ C.1.2\ \#\ Enlisted\ Personnel\text{-}\ Navy + VAMOSC\ Element\ C.2.2\ \#\ Enlisted\ Personnel\text{-}\ Marines]}{VAMOSC\ Element\ A.0\ Number\ of\ Ships}$$

Note: data pulled from VAMOSC accounts for all personnel assigned to a ship's UIC. Therefore, for non-traditionally crewed platforms (for example, SeaSwap or blue/gold crewing philosophies), the total reported in VAMOSC represents all crew members. If input PS1 is set to a value other than 1, the VAMOSC – based crew numbers may need to be adjusted to accurately represent the crew.

Note: For the PC-1 Class, an alternative data source, the VAMOSC Corporate Query "PC-1CL Rotational Crew AUICs- Personnel Costs," is used. The average number of enlisted personnel for each rotational crew over the last five years (2008-2012) is used.

PS6 – Civ Cl. 1 Crew (Psn/Crew)

Definition: The number of Civilian Mariner Class 1 personnel assigned to a single crew for the platform. Total crew assigned to the platform will be calculated using this number and input PS1 Number of Crews per Ship.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

PS7 – Civ Cl. 2 Crew (Psn/Crew)

Definition: The number of Civilian Mariner Class 2 personnel assigned to a single crew for the platform. Total crew assigned to the platform will be calculated using this number and input PS1 Number of Crews per Ship.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

PS8 – Other Crew (Psn/Crew)

Definition: The number of Other personnel assigned to a single crew for the platform. Total crew assigned to the platform will be calculated using this number and input PS1 Number of Crews per Ship.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

PS9 – Avg. Officer Pay ($K/Psn/Mth)

Definition: The average monthly pay per officer in the crew. Direct pay costs include: base pay, allowances, bonuses, entitlements, FICA contribution, retirement, and PCS. In simplified mode, this input is entered manually; in detailed mode, it is calculated from information in the tables.

UNCLASSIFIED, DISTRIBUTION A: Approved for public release; distribution is unlimited.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available last 5 years (2008-2012). VAMOSC Element 1.1.1.1.1 represents Manpower – Navy – Officer, VAMOSC Element 1.1.1.2.1 represents Manpower – Marine – Officer, VAMOSC Element1.1.2 represents PCS, and VAMOSC Element 1.1.4 represents Subsistence.

$$officer\$/person/month = \left(\frac{[Element1.1.1.1.1 + Element1.1.1.2.1 + \% \, Officers \times (Element1.1.2 + Element1.1.4)]}{Number of \, Officers}\right)/12$$

To determine % Officers in the above formula, the following formula is used. In addition, the term Number of Officers is the numerator of this following formula.

$$\% \, of \, officers = \frac{[VAMOSC \, Element C.1.1 \, \# \, Officer Personnel\text{-} Navy + VAMOSC \, Element C.2.1 \, \# \, Officer Personnel\text{-} Marines]}{VAMOSC \, Element C.0 \, Number of \, Personnel\text{-} Total \, Assigned}$$

Inflation index: MPN Pay

Note: For the PC-1 Class, an alternative data source, the VAMOSC Corporate Query "PC-1CL Rotational Crew AUICs- Personnel Costs," is used. The average Navy Officer - Total Military Personnel Costs (Personnel + PCS) per Officer FTE over the last five years (2008-2012) is used.

PS10 – Avg WO Pay ($K/Psn/Mth)

Definition: The average monthly pay per warrant officer in the crew. Direct pay costs include: base pay, allowances, bonuses, entitlements, FICA contribution, retirement, and PCS. In simplified mode, this input is entered manually; in detailed mode, it is calculated from information in the tables.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: MPN Pay

Note: Warrant Officer crew are accounted for as officer crew in VAMOSC data and are accordingly pays are accounted for in the input PS9 average in the OSCAM Historical datasets.

PS11 – Avg Enlisted Pay ($K/Psn/Mth)

Definition: The average monthly pay per enlisted in the crew. Direct pay costs include: base pay, allowances, bonuses, entitlements, FICA contribution, retirement, and PCS. In simplified mode, this input is entered manually; in detailed mode, it is calculated from information in the tables.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available last 5 years (2008-2012). VAMOSC Element 1.1.1.1.2 represents Manpower – Navy – Enlisted, VAMOSC Element 1.1.1.2.2 represents Manpower – Marine – Enlisted, VAMOSC Element 1.1.2 represents PCS, and VAMOSC Element 1.1.4 represents Subsistence.

$$\text{enlisted \$./person/month} = \left(\frac{[\text{Element} 1.1.1.2 + \text{Element} 1.1.2.2 + \% \text{ Enlisted} \times (\text{Element} 1.2 + \text{Element} 1.1.4)]}{\text{Number of Enlisted}} \right) / 12$$

To determine % Enlisted in the above formula, the following formula is used. In addition, the term Number of Enlisted is the numerator of this following formula.

$$\% \text{ of enlisted} = \frac{[\text{VAMOSC Element C.1.2 \# Enlisted Personnel- Navy} + \text{VAMOSC Element C.2.2 \# Enlisted Personnel- Marines}]}{\text{VAMOSC Element C.0 Number of Personnel- Total Assigned}}$$

Inflation index: MPN Pay

Note: For the PC-1 Class, an alternative data source, the VAMOSC Corporate Query "PC-1CL Rotational Crew AUICs- Personnel Costs," is used. The average Navy Enlisted - Total Military Personnel Costs (Personnel + PCS) per Enlisted FTE over the last five years (2008-2012) is used.

PS12 – Avg Civ Cl. 1 Pay ($K/Psn/Mth)

Definition: The average monthly pay for each crew member in the Civilian Mariner Class 1 category. In simplified mode, this input is entered manually; in detailed mode, it is calculated from information in the tables.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: Civ Pay

PS13 – Avg Civ Cl. 2 Pay ($K/Psn/Mth)

Definition: The average monthly pay for each crew member in the Civilian Mariner Class 2 category. In simplified mode, this input is entered manually; in detailed mode, it is calculated from information in the tables.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: Civ Pay

PS14 – Avg Other Pay ($K/Psn/Mth)

Definition: The average monthly pay for each crew member in the Other category. In simplified mode, this input is entered manually; in detailed mode, it is calculated from information in the tables.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: MPN Pay

Other Unit Level Personnel

PS15 – OUL Personnel Cost ($K/Ship/Yr)

Definition: Cost of Other Unit Personnel Costs per platform per year. This is a simplified input that allows for a single value to be used to cover all Other Unit Level Personnel costs.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: MPN Pay

PS16 – OUL Officers (Psn/Ship)

Definition: The number of Other Unit Level Officer personnel assigned to the platform. Other Unit Level Personnel are those persons who directly support the platform but are not assigned to the platform's crew. For example, O-level maintainers who have been moved to the shore.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

PS17 – OUL Enlisted (Psn/Ship)

Definition: The number of Other Unit Level Enlisted personnel assigned to the platform. Other Unit Level Personnel are those persons who directly support the platform but are not assigned to the platform's crew. For example, O-level maintainers who have been moved to the shore.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

PS18 – OUL KTRs (Psn/Ship)

Definition: The number of Other Unit Level Contractor personnel assigned to the platform. Other Unit Level Personnel are those persons who directly support the platform but are not assigned to the platform's crew. For example, O-level maintainers who have been moved to the shore.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

PS20 – OUL Officer Pay ($K/Psn/Mth)

Definition: The average monthly pay for each person in the Other Unit Level Personnel Officer category. Direct pay costs include: base pay, allowances, bonuses, entitlements, FICA contribution, retirement, and PCS.

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Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: MPN Pay

PS21 – OUL Enlisted Pay ($K/Psn/Mth)

Definition: The average monthly pay for each person in the Other Unit Level Personnel Enlisted category.   Direct pay costs include: base pay, allowances, bonuses, entitlements, FICA contribution, retirement, and PCS.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: MPN Pay

PS22 – OUL Civilian Pay ($K/Psn/Mth)

Definition: The average monthly pay for each person in the Other Unit Level Personnel Civilian category.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: Civ Pay

PS23 – OUL KTR Pay ($K/Psn/Mth)

Definition: The average monthly pay for each person in the Other Unit Level Personnel Contractor category.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: Civ Pay

PS24 – OUL Temp Add'l Duty ($K/Psn/Yr)

Definition: Temporary Additional Duty costs of OUL Personnel travel relating to training, administrative, or purposes such as homeport travel entitlement, crew rotation/deployment && temp shore patrol. E.g., commercial transportation charges, rental vehicles, mileage, per diem && incidental expenses.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Training

TR1 – Officer Training Cost ($K/Psn/Yr)

Definition: Annual training costs for each Officer crew member to enable them to perform assigned maintenance and operational tasks.

Data Source: VAMOSC Program Management Team

Historical dataset methodology: The Training Data File provided by the IBM VAMOSC Team has Annual Training costs per Officer each year from FY 2001 to FY 2012. It also has, for FY2001 to FY 2005, an additional cost per Officer for (a) MHC and MCM, (b) CVN, CV, LHD, and LHA, (c) SSN, (d) SSBN, and (e) SSGN. These values from the training data file have been converted from their respective then-year to constant $FY14 using the NCCA O&MN/LF (COMPOSITE) Operations & Maintenance, Navy – Less Fuel (1804) index. The average of the annual costs and if applicable, the average additional cost, is then used for this input.

Inflation Index: OMNLF Comp

TR2 – WO Training Cost ($K/Psn/Yr)

Definition: Annual training costs for each Warrant Officer crew member to enable them to perform assigned maintenance and operational tasks.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR3 – Enlisted Training Cost ($K/Psn/Yr)

Definition: Annual training costs for each Enlisted crew member to enable them to perform assigned maintenance and operational tasks.

Data Source: IBM VAMOSC Team

Historical dataset methodology: The Training Data File provided by the IBM VAMOSC Team has Annual Training costs per Enlisted each year from FY 2001 to FY 2012. It also has, for FY 2001 to FY 2005, an additional cost per Officer for (a) MHC and MCM, (b) CVN, CV, LHD, and LHA, (c) SSN, (d) SSBN, and (e) SSGN. These values from the training data file have been converted from their respective then-year to constant $FY14 using the NCCA O&MN/LF (COMPOSITE) Operations & Maintenance, Navy – Less Fuel (1804) index. The average of the annual costs and if applicable, the average additional cost, is then used for this input.

Inflation Index: OMNLF Comp

TR4 – Civ Cl. 1 Training Cost ($K/Psn/Yr)

Definition: Annual training costs for each Civilian Mariner Class 1 crew member to enable them to perform assigned maintenance and operational tasks.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR5 – Civ Cl. 1 Training Cost ($K/Psn/Yr)

Definition: Annual training costs for each Civilian Mariner Class 2 crew member to enable them to perform assigned maintenance and operational tasks.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR6 – Other Training Cost ($K/Psn/Yr)

Definition: Annual training costs for each Other crew member to enable them to perform assigned maintenance and operational tasks.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR7 – OUL Officer Training ($K/Psn/Yr)

Definition: Annual training costs for each Other Unit Level Officer.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR8 – OUL Enlisted Training ($K/Psn/Yr)

Definition: Annual training costs for each Other Unit Level Enlisted.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR9 – OUL Civilian Training ($K/Psn/Yr)

Definition: Annual Annual training costs for each Other Unit Level Civilian.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

TR10 – Class Training Cost ($K/Class/Yr)

Definition: Fixed training costs applied to the platform class. These are recurring annual costs independent of the number of ships and number of personnel. Costs will only be accrued if there is an active ship in the inventory.

Data Source: IBM VAMOSC Team

Historical dataset methodology: The Training Data File provided by the IBM VAMOSC Team has costs for Additional Training for the SSBN-726CL the Program Office from FY 2001 to FY2012. These values from the training data file have been converted from their respective then-year to constant $FY14 using the NCCA O&MN/LF (COMPOSITE) Operations & Maintenance, Navy – Less Fuel (1804) index. The average of the annual costs is then used for this input. This field is zero for all classes except the SSBN-726 class.

Inflation Index: OMNLF Comp

O/I Maintenance

O-Level Maintenance

MT1 – OL Contractor Support ($K/Ship/Yr)

Definition: Annual Contractor support for Organizational level maintenance in addition to or in lieu of the platform crew.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMNLF Comp

MT2 – OL Ann Cost ($K/Ship/Yr)

Definition: Simplified representation of Organizational level maintenance costs on a plaftorm per year basis. Organizational level maintenance is work performed by the platform's crew. Labor costs for crew work are accounted for in crew pay, not in this input.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMN Purchases

MT3 – OL Cost IFT ($K/Mth IFT)

Definition: Simplified representation of Organizational level maintenance costs on a $K per month IFT basis. Organizational level maintenance is work performed by the platform's crew. Labor costs for crew work are accounted for in crew pay, not in this input.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMN Purchases

MT4 – OL Cost UWay ($K/Hr UWay)

Definition: Simplified representation of Organizational level maintenance costs on a $K per steaming hour underway basis. Organizational level maintenance is work performed by the platform's crew. Labor costs for crew work are accounted for in crew pay, not in this input.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMN Purchases

Maintenance Actions

MT5 – OL Maint Ann Actions (Act/Ship/Yr)

Definition: The number of O-Level Maintenance Actions per platform per year. Number of Maintenance Action may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per ship per year are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average is calculated that is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes

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that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT6 – OL Maint IFT Actions (Act/Mth IFT)

Definition: The number of O-Level Maintenance Actions per month IFT. Number of Maintenance Actions may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT7 – OL Maint UWay Actions (Act/Hr UWay)

Definition: The number of O-Level Maintenance Actions per steaming hour underway. Number of Maintenance Actions may be impacted by applying factors in the Age Impact on Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT8 – OL Maint Labor Effort (PnHrs/Act)

Definition: The average number of O-Level labor hours required for each Maintenance Action.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Manhours per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average is calculated that is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT9 – OL Maint Consumables ($K/Act)

Definition: The cost of O-Level Consumables required per Maintenance Action. Consumable Maintenance Actions material includes the costs of material consumed in the maintenance/support of a platform and its associated support/training equipment. Examples include coolants and deicing fluids.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation Index: OMN Purchases

MT10 – OL Maint Repair Parts (Parts/Act)

Definition: The average number of repair parts required per O-Level Maintenance Action. Repair parts include the cost of materials used to repair the platform and associated support and training equipment. E.g.: circuit cards, capacitors, gaskets, fuses, filters, batteries, and tires.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average is calculated that is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT11 – OL Maint Exchanges (Parts/Act)

Definition: The number of repairable parts that are exchanged per action for O-Level Maintenance Actions. Exchanges assume that a carcass is returned to the depot.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of exchanges per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT12 - OL Maint Issues (Parts/Act)

Definition: The number of newly issued repairable parts per action for O-Level Maintenance Actions. Issues assume that no carcass is returned to the depot.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of issues per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year

added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT13 – OL Maint Repair Part Cost ($K/Part)

Definition: The average cost per repair part for O-Level Maintenance Actions. Cost of Maintenance Action may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Costs per repair part are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT14 – OL Maint Exchange Cost ($K/Part)

Definition: The average cost per repairable part that is exchanged for O-Level Maintenance Actions. Cost of Maintenance Actions may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT15 – OL Maint Issue Cost ($K/Part)

Definition: The average cost per repairable part that is a new issue for O-Level Maintenance Actions. Cost of Maintenance Actions may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY\$. Each year is inflated to FY14\$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation Index: OMN Purchases

Alterations

MT16 – OL Alt Ann Actions (Act/Ship/Yr)

Definition: The number of O-Level Alterations per platform per year. Number of Alteration may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per ship per year are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT17 – OL Alt IFT Actions (Act/Mth IFT)

Definition: The number of O-Level Alterations per month IFT. Number of Alterations may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT18 – OL Alt UWay Actions (Act/Hr UWay)

Definition: The number of O-Level Alterations per steaming hour underway. Number of Alterations may be impacted by applying factors in the Age Impact on Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT19 – OL Alt Labor Effort (PnHrs/Act)

Definition: The average number of O-Level labor hours required for each Alteration.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Manhours per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT20 – OL Alt Consumables ($K/Act)

Definition: The cost of O-Level Consumables required per Alteration. Consumable Alterations material includes the costs of material consumed in the maintenance/support of a platform and its associated support/training equipment. Examples include coolants and deicing fluids.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

MT21 – OL Alt Repair Parts (Parts/Act)

Definition: The average number of repair parts required per O-Level Alteration. Repair parts include the costs of materials used to repair the platform and associated support and training equipment. E.g.: circuit cards, capacitors, gaskets, fuses, filters, batteries, and tires.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT22 – OL Alt Exchanges (Parts/Act)

Definition: The number of repairable parts that are exchanged per action for O-Level Alterations. Exchanges assume that a carcass is returned to the depot.

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Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of exchanges per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT23 - OL Alt Issues (Parts/Act)

Definition: The number of newly issued repairable parts per action for O-Level Alterations. Issues assume that no carcass is returned to the depot.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of issues per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT24 – OL Alt Repair Part Cost ($K/Part)

Definition: The average cost per repair part for O-Level Alterations. Cost of Alteration may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Costs per repair part are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT25 – OL Alt Exchange Cost ($K/Part)

<u>Definition</u>: The average cost per repairable part that is exchanged for O-Level Alterations. Cost of Alterations may be impacted by applying factors in the Age Impact on Parts Cost curve.

<u>Data Source:</u> OARS 3-M

<u>Historical dataset methodology:</u> Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

<u>Inflation index:</u> OMN Purchases

MT26 – OL Alt Issue Cost ($K/Part)

<u>Definition</u>: The average cost per repairable part that is a new issue for O-Level Alterations. Cost of Alterations may be impacted by applying factors in the Age Impact on Parts Cost curve.

<u>Data Source:</u> OARS 3-M

<u>Historical dataset methodology:</u> Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

<u>Inflation Index:</u> OMN Purchases

I-Level Maintenance

MT27 - IL Contractor Support ($K/Ship/Yr)

<u>Definition</u>: Contractor support for Intermediate level maintenance.

<u>Data Source:</u> VAMOSC Ships Universe

<u>Historical dataset methodology:</u> For each ship class, the following formula is used for the available years of VAMOSC data.

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$$I\,level\,Support\,\$/ship/year = \frac{VAMOSC\,Element\,2.3\,CIS/IDIQ\,(Commercial\,Industrial\,Services/Indefinite\,Services/Indefinite\,Quantity\,Contracts)}{VAMOSC\,Element\,A.0\,Number\,of\,Ships}$$

Inflation index: OMNLF Comp

MT28 - IL Ann Cost ($K/Ship/Yr)

Definition: Simplified representation of I-Level maintenance costs on a platform per year basis.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

MT29 - IL Cost IFT ($K/Mth IFT)

Definition: Simplified representation of I-Level maintenance cost per month IFT.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

MT53 – IL Direct Labor Rate ($K/PnHr)

Definition: The hourly labor rate for maintenance personnel at the intermediate maintenance facility.

Data Source: VAMOSC Program Management Office/IBM VAMOSC Team

Historical dataset methodology: The VAMOSC Ships User Manual v13.01 02/2014 lists annual I-Level Standard Composite Rates. The TY12$ SCR is converted to constant FY14$ using the MPN Pay Index.

Inflation index: MPN Pay

MT54 – IL Labor Overhead (%)

Definition: I-Level labor overhead costs are specified as a percentage of the direct labor rate. A value of 5 indicates that there is an additional 5% of the direct labor rate added to account for overhead costs.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Maintenance Actions

MT31 – IL Maint Ann Actions (Act/Ship/Yr)

Definition: The number of I-Level Maintenance Actions per platform per year. Number of Maintenance Actions may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per ship per year are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT32 – IL Maint IFT Actions (Act/Mth IFT)

Definition: The number of I-Level Maintenance Actions per month IFT.   Number of Maintenance Actions may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT33 – IL Maint UWay Actions (Act/Hr UWay)

Definition: The number of I-Level Maintenance Actions per steaming hour underway. Number of Maintenance Actions may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT34 – IL Maint Labor Effort (PnHrs/Act)

Definition: The average number of I-Level labor hours required for each Maintenance Action.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Manhours per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of

OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT35 – IL Maint Consumables ($K/Act)

Definition: The cost of I-Level Consumables required per Maintenance Action. The cost of government furnished consumable materials used in maintaining and repairing a platform, simulators, training devices, and associated support equipment by intermediate-level maintenance activities.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

MT36 – IL Maint Repair Parts (Parts/Act)

Definition: The average number of repair parts required per I-Level Maintenance Action. These are government furnished repair parts used in maintaining and repairing a platform, simulators, training devices, and associated support equipment.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT37 – IL Maint Exchanges (Parts/Act)

Definition: The number of exchangeable parts per action for I-Level Maintenance Actions. These are government furnished DLRs used in maintaining and repairing platform, simulators, training devices, and associated support equipment.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of exchanges per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all

ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT38 - IL Maint Issues (Parts/Act)

Definition: The number of newly issued parts per action for I-Level Maintenance Actions. These are government furnished DLRs used in maintaining and repairing platform, simulators, training devices, and associated support equipment.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of issues per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT39 – IL Maint Repair Part Cost ($K/Part)

Definition: The average cost per repair part for I-Level Maintenance Actions. Cost of Maintenance Actions may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Costs per repair part are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average is calculated of the constant year dollars. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT40 – IL Maint Exchange Cost ($K/Part)

Definition: The average cost per repairable part that is exchanged for I-Level Maintenance Actions. Cost of Maintenance Actions may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT41 – IL Maint Issue Cost ($K/Part)

Definition: The average cost per repairable part that is a new issue for I-Level Maintenance Actions. Cost of Maintenance Actions may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation Index: OMN Purchases

Alterations

MT42 – IL Alt Ann Actions (Act/Ship/Yr)

Definition: The number of I-Level Alterations per platform per year. Number of Alterations may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Actions per ship per year are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT43 – IL Alt IFT Actions (Act/Mth IFT)

Definition: The number of I-Level Alterations per month IFT. Number of Alterations may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT44 – IL Alt UWay Actions (Act/Hr UWay)

Definition: The number of I-Level Alterations per steaming hour underway. Number of Alterations may be impacted by applying factors in the Age Impact on Action Rates curve.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT45 – IL Alt Labor Effort (PnHrs/Act)

Definition: The average number of I-Level labor hours required for each Alteration.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Manhours per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT46 – IL Alt Consumables ($K/Act)

Definition: The cost of I-Level Consumables required per Alteration. The cost of government furnished consumable materials used in maintaining and repairing a platform, simulators, training devices, and associated support equipment by intermediate-level maintenance activities.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

MT47 – IL Alt Repair Parts (Parts/Act)

Definition: The average number of repair parts required per I-Level Alteration. These are government furnished repair parts used in maintaining and repairing a platform, simulators, training devices, and associated support equipment.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repair parts per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available, and an average that is used for the OSCAM input is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT48 – IL Alt Exchanges (Parts/Act)

Definition: The number of exchangeable parts per action for I-Level Alterations. These are government furnished DLRs used in maintaining and repairing platform, simulators, training devices, and associated support equipment.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasests assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of exchanges per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT49 - IL Alt Issues (Parts/Act)

Definition: The number of newly issued parts per action for I-Level Alterations. These are government furnished DLRs used in maintaining and repairing platform, simulators, training devices, and associated support equipment.

Data Source: OARS 3-M

Historical dataset methodology and assumptions: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Repairables per action are pulled directly from the OARS 3-M system for the 10 most recent years of data available. The datasets assume that 95% of these are exchanges, and the other 5% of these are issues. An average value of issues per action is calculated and is used for the OSCAM input. Each year, the oldest year of data is dropped and the newest year

added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

MT50 – IL Alt Repair Part Cost ($K/Part)

Definition: The average cost per repair part for I-Level Alterations. Cost of Alterations may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Costs per repair part are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT51 – IL Alt Exchange Cost ($K/Part)

Definition: The average cost per repairable part that is exchanged for I-Level Alterations. Cost of Alterations may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation index: OMN Purchases

MT52 – IL Alt Issue Cost ($K/Part)

Definition: The average cost per repairable part that is a new issue for I-Level Maintenance Actions. Cost of Maintenance Actions may be impacted by applying factors in the Age Impact on Parts Cost curve.

Data Source: OARS 3-M

Historical dataset methodology: Data is pulled directly from the OARS 3-M system in a detailed form that is unavailable in the VAMOSC database. The data that is used for the OSCAM historical datasets is rolled up and presented at a higher level in the VAMOSC database. Average Exchange Costs are pulled directly from the OARS 3-M system for the 10 most recent years of data available in TY$. Each year is inflated to FY14$ using the NCCA OMN (Purchases) Operations & Maintenance (1804) weighted index. Then an average of the constant year dollars is calculated. Each year, the oldest year of data is dropped and the newest year added for ship classes that are still in service. Thus, the average is a rolling 10 year average. Note that not all ships have 10 years of OARS data available. Please refer to Table 1: Basic Ship Information for the data years used for a particular ship class.

Inflation Index: OMN Purchases

O/I Level Factors

MT55 – Deployed Action Factor (Factor)

Definition: A multiplier on O-Level and I-Level action rates that is applied when a ship is Deployed (Deployment mode only). A value of 0.9 indicates that there will be 10% fewer actions, while 1.2 indicates 20% more actions when Deployed. This applies to Annual, IFT and Hrs Underway action rates. It applies to simplified and detailed maintenance modes.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT56 – Non-Deployed Action Factor (Factor)

Definition: A multiplier on O-Level and I-Level Maintenance action rates when a ship is Non-Deployed (Deployment mode only). A value of 0.9 indicates that there will be 10% fewer actions, while 1.2 indicates 20% more actions when Non-Deployed. This applies to Annual, IFT and Hrs Underway action rates. It applies to simplified and detailed maintenance modes.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

MT57 – In Availability Action Factor (Factor)

Definition: A multiplier on O-Level and I-Level Maintenance action rates that is applied when a ship is in an Availability (Deployment mode only). A value of 0.9 indicates that there will be 10% fewer actions, while 1.2 indicates 20% more actions when in an Availability. This applies to Annual action rate only since ships in Availability are not IFT or Underway.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Depot Maintenance

Unscheduled

There are two types of Unscheduled Repairs. Type A Repairs are considered Restricted Availabilities (RAVs), which render the ship unable to perform its mission. Type B Repairs are Technical Availabilities (TAVs), during which the ship's ability to fully perform its mission is not affected.

DM1 – Unsched DM Cost ($K/Ship/Yr)

Definition: Simplified representation of Unscheduled Depot Maintenance costs on a platform per year basis. This is work done at shipyard facilities as a result of casualty, voyage damage, and unforeseen events beyond O && I level capability. Unscheduled work causes no platform downtime in this model.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

DM2 – Unsched DM Cost IFT ($K/Mth IFT)

Definition: Simplified representation of Unscheduled Depot Maintenance cost per month IFT. This is work done at shipyard facilities as a result of casualty, voyage damage, and unforeseen events beyond O and I level capability. Unscheduled work causes no platform downtime in this model.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

DM3 – Unsched DM Cost UWay ($K/Hr UWay)

Definition: Simplified representation of Unscheduled Depot Maintenance cost per steaming hour underway. This is work done at shipyard facilities as a result of casualty, voyage damage, and unforeseen events beyond O and I level capability. Unscheduled work causes no platform downtime in this model.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

DM4 - Type A Repair Avail (Av/Year)

Definition: The number of Unscheduled Availabilities per year for each platform. This is shipyard work done as a result of casualty, voyage damage, and unforeseen events beyond O/I level capability. For example, RAV or TAV availabilities. Unscheduled work causes no platform downtime in the model.

Data Source: Assumption

Historical dataset methodology: Historical datasets assume a value of 1.00.

DM5 – Type A Cost ($K/Av)

Definition: The cost for each Unscheduled Depot Maintenance period. This represents all the labor, materials, and overhead costs associated with the unscheduled availability.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{TypeA \$/unscheduled avail} = \frac{\left[\text{VAMOSC Element 3.2.1 Maint - Nonsch - Depot RAV} \right]}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OMNLF Comp

DM6 - Type B Repair Avail (Av/Year)

Definition: The number of Unscheduled Availabilities per year for each platform. This is shipyard work done as a result of casualty, voyage damage, and unforeseen events beyond O/I level capability. Unscheduled work causes no platform downtime in the model.

Data Source: Assumption

Historical dataset methodology: Historical datasets assume a value of 1.00.

DM7 – Type B Cost ($K/Av)

Definition: The cost for each Unscheduled Depot Maintenance period. This represents all the labor, materials, and overhead costs associated with the unscheduled availability.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{TyepB \$/unscheduled avail} = \frac{\left[\text{VAMOSC Ships 3.2.2 Maint - Nonsch - Depot TAV} \right]}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OMNLF Composite

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Scheduled

Simplified

DM8 – Scheduled Repair Cost ($K/Ship/Yr)

Definition: Simplified annual repair costs for Scheduled Depot Maintenance Availabilities. The simplified input represents all the labor, materials and overhead costs associated with the repair work performed during the scheduled depot availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

DM9 – Scheduled Mod Cost ($K/Ship/Yr)

Definition: Simplified annual modernization costs for Scheduled Depot Maintenance Availabilities. The simplified input represents all the labor, materials, and overhead costs associated with the modernization work performed during the scheduled depot availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

DM10 – Percent of Life in Availabilities (%)

Definition: Time a platform spends in Scheduled Depot Availabilities. The simple representation is applied evenly for the platform life. Entering a value of 20 means that the platform spends 20% of its time in Scheduled Availabilities and 80% IFT each year. Entering a value of 0 means that no downtime is associated with the depot costs.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Not Simplified Mode

DM11 – Type 1 Duration (Mths/Av)

Definition: Number of months required to complete a Type 1 Availability.

Data Source: OPNAVNOTE 4700

Historical dataset methodology: If the Availability schedule is listed in the OPNAVNOTE 4700, then the duration listed in the OPNAVNOTE 4700 is used. If the schedule is not listed in the OPNAVNOTE 4700,

the datasets assume a value of 0.00 and no availability types are recorded. See the section "Operational Profile" in the guide for adjustments made to the OPNAVNOTE 4700 Availability schedule to create the datasets.

Note: The same procedure is used for inputs DM47, DM83, DM119, DM155, DM191, DM227, DM263, and inputs DM299. These are the inputs for Availability Types 2 to 9.

Government – Moderate Detail

DM12 - Type 1 Gov Mod Cost ($K/Av)

Definition: Moderate level of detail for modernization costs for a Type 1 Government Depot Availability. The moderate level of detail represents all of the labor, materials, and overhead costs for modernization work done for a Type 1 availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM48, DM84, DM120, DM156, DM192, DM228, DM264, and inputs DM300. These are the respective inputs for Availability Types 2 to 9.

DM13 – Type 1 Gov Refuel Cost ($K/Av)

Definition: Moderate level of detail for nuclear refueling costs for a Type 1 Government Depot Availability. The moderate level of detail represents all of the labor, materials, and overhead costs for nuclear refueling work done for a Type 1 availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

Note: The same procedure is used for inputs DM49, DM85, DM121, DM157, DM193, DM229, DM265, and inputs DM301. These are the respective inputs for Availability Types 2 to 9.

DM14 - Type 1 Gov Repair Cost ($K/Av)

Definition: Moderate level of detail for repair costs for a Type 1 Government Depot Availability. The moderate level of detail represents all of the labor, materials, and overhead costs for repair work done for a Type 1 availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM50, DM86, DM122, DM158, DM194, DM230, DM266, and inputs DM302. These are the respective inputs for Availability Types 2 to 9.

Inflation index: OMNLF Comp

Government – Detailed

DM15 – Type 1 Gov Design & Plan ($K/Av)

Definition: Design and Planning Services costs for the Government yard for each availability. Costs include: Basic Alterations Class Drawings (BACD), Alteration Development Support (ADS), scoping, and manuals and technical documentation necessary for completion of a platform's depot availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

Note: The same procedure is used for inputs DM51, DM87, DM123, DM159, DM195, DM231, DM267, and inputs DM303. These are the respective inputs for Availability Types 2 to 9.

DM16 – Type 1 Gov Mod Effort (PnMth/Av)

Definition: Labor effort (in person months) required for modernization work during a Type 1 Government Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM52, DM88, DM124, DM160, DM196, DM232, DM268, and inputs DM304. These are the respective inputs for Availability Types 2 to 9.

DM17 – Type 1 Gov Mod Labor ($K/PnMth)

Definition: Monthly pay rate per person for performing modernization work during a Type 1 Government Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM53, DM89, DM125, DM161, DM197, DM233, DM269, and inputs DM305. These are the respective inputs for Availability Types 2 to 9.

DM18 – Type 1 Gov CPM Cost ($K/Av)

Definition: Centrally Provided Material (CPM) cost for modernization work during a Type 1 Government Depot Availability. CPM is the acquisition cost of investment funded (Other Procurement, Navy (OPN) and Weapons Procurement, Navy (WPN)) material used in modernization work.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM54, DM90, DM126, DM162, DM198, DM234, DM270, and inputs DM306. These are the respective inputs for Availability Types 2 to 9.

DM19 – Type 1 Gov Mod Materials ($K/Av)

Definition: Materials cost for modernization work in a Type 1 Government Depot Availability. This element does not include CPM costs.

Data Source: OPNAVNOTE 4700

Historical dataset methodology: VAMOSC Element 3.3 is Fleet Modernization cost and VAMOSC Element A.0 is Number of Ships or Number of Systems. Total Months in Availability is found by referring to the timeline listed in the OPNAVNOTE 4700. Duration refers to the number of months in the availability, or input DM11, for the respective Availability Type.

$$\frac{VAMOSC\,Element\ 3.3}{VAMOSC\,Element\ A.0} \times Service\ Life = Total\,Lifetime\ Modernization\ (TLM)$$

DM19 is then calculated by substituting TLM into the formula below:

$$\frac{TLM}{Total\,Monthsin\ Availability} \times Duration$$

Inflation index: OPN

Note: The same procedure is used for inputs DM55, DM91, DM127, DM163, DM199, DM235, DM271, and inputs DM307. These are the respective inputs for Availability Types 2 to 9.

DM20 – Type 1 Gov Refuel Effort (PnMth/Av)

Definition: Labor effort (in person months) required for nuclear refueling work during a Type 1 Government Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM56, DM92, DM128, DM164, DM200, DM236, DM272, and inputs DM308. These are the respective inputs for Availability Types 2 to 9.

DM21 – Type 1 Gov Refuel Labor ($K/PnMth)

Definition: Monthly pay rate per person for performing refueling work during a Type 1 Government Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: CIV Pay

Note: The same procedure is used for inputs DM57, DM93, DM129, DM165, DM201, DM237, DM273, and inputs DM309. These are the respective inputs for Availability Types 2 to 9.

DM22 – Type 1 Gov Repl Core Cost ($K/Av)

Definition: Cost for the replacement nuclear core in a Type 1 Government Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: SCN

Note: The same procedure is used for inputs DM58, DM94, DM130, DM166, DM202, DM238, DM274, and inputs DM310. These are the respective inputs for Availability Types 2 to 9.

DM23 – Type 1 Gov Refuel Materials ($K/Av)

Definition: Materials cost (not including the cost of the nuclear core) for refueling work during a Type 1 Government Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM59, DM95, DM131, DM167, DM203, DM239, DM275, and inputs DM311. These are the respective inputs for Availability Types 2 to 9.

DM24 – Type 1 Gov Repair Effort (PnMth/Av)

Definition: Labor effort (in person months) required for repair work during a Type 1 Government Depot Availability.

Data Source: OPNAVNOTE 4700

Historical dataset methodology: For each ship class, the following formula is used.

$$Mandays/Month = (365 - 52*2)/12$$

$$PnMth/AV = \frac{OPNAVNOTE4700\ Mandays/Av}{Mandays/Mth}$$

Note: The same procedure is used for inputs DM60, DM96, DM132, DM168, DM204, DM240, DM276, and inputs DM312. These are the respective inputs for Availability Types 2 to 9.

DM25 – Type 1 Gov Repair Labor ($K/PnMth)

Definition: Monthly pay rate per person for performing repair work during a Type 1 Government Depot Availability.

Data Source: Private Sector Manday Rates June 2014, NAVSEA 04, VAMOSC

Historical dataset methodology: Take the Avg of the Public and Private Yard Manday Rates and multiply by the Mandays per month.

$$\$/Manday = \%PublicYards*Avg(PublicYardMandayRates) + \%PrivateYards*Avg(PrivateSectorMandayRates)$$

$$RepairLabor\$/PnMth = \$/Manday*Mandays/PnMth$$

Average East and West Coast Private sector government manday rates have been provided by NAVSEA 05C1 and Public yard manday rates have been provided by NAVSEA 04. From these provided rates an average private manday rate and an average public manday rate is determined. A weighted average of these rates, based on historical public/private cost allocations (described below), is used to derive the $/manday as shown in the first equation above.

Using the last five years of VAMOSC data, 2008-2012, the percent of scheduled depot costs that are public are determined using VAMOSC element 3.1.1.1 Maintenance - Scheduled - Depot - ROH - Public Shipyards and VAMOSC element 3.1.2.1 Maintenance - Scheduled - Depot - SRA - Public Shipyards. Similarly, using the last five years of VAMOSC data, 2008-2012, the percent of scheduled depot costs that are private are determined using VAMOSC element 3.1.1.2 Maintenance - Scheduled - Depot - ROH – Private Shipyards and VAMOSC element 3.1.2.2 Maintenance - Scheduled - Depot - SRA - Private Shipyards. This allocation of public and private costs is applied to the average public and private manday rates. Because VAMOSC does not break the private costs into labor and material, it is assumed that this total public/private scheduled cost allocation will align with the labor public/private scheduled cost allocation.

Inflation index: CIV Pay

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Note: The same procedure is used for inputs DM61, DM97, DM133, DM169, DM205, DM241, DM277, and inputs DM313. These are the respective inputs for Availability Types 2 to 9.

DM26 – Type 1 Gov Repair Materials ($K/Av)

Definition: Materials cost for repair work during a Type 1 Government Depot Availability.

Data Source: OPNAVNOTE 4700

Historical dataset methodology: For each ship class, the following formula is used

$$(\$K/Av) = MUCRate * OPNAVNOTE\,4700\,Mandays/Av$$

The Material Unit Cost (MUC) Rate and Mandays is given in the OPNAVNOTE 4700.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM62, DM98, DM134, DM170, DM206, DM242, DM278, and inputs DM314. These are the respective inputs for Availability Types 2 to 9.

Contractor – Moderate Detail

DM27 – Type 1 KTR Mod Cost ($K/Av)

Definition: Moderate level of detail for modernization costs for a Type 1 Contractor Depot Availability. The moderate level of detail represents all of the labor, materials, and overhead costs for modernization work done for a Type 1 availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM63, DM99, DM135, DM171, DM207, DM243, DM279, and inputs DM315. These are the respective inputs for Availability Types 2 to 9.

DM28 – Type 1 KTR Refuel Cost ($K/Av)

Definition: Moderate level of detail for nuclear refueling costs for a Type 1 Contractor Depot Availability. The moderate level of detail represents all of the labor, materials, and overhead costs for nuclear refueling work done for a Type 1 availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

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Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM64, DM100, DM136, DM172, DM208, DM244, DM280, and inputs DM316. These are the respective inputs for Availability Types 2 to 9.

DM29 – Type 1 KTR Repair Cost ($K/Av)

Definition: Moderate level of detail for repair costs for a Type 1 Contractor Depot Availability. The moderate level of detail represents all of the labor, materials, and overhead costs for repair work done for a Type 1 availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM65, DM101, DM137, DM173, DM209, DM245, DM281, and inputs DM317. These are the respective inputs for Availability Types 2 to 9.

Contractor – Detailed

DM30 – Type 1 KTR Design & Plan ($K/Av)

Definition: Design and Planning Services costs for the Contractor yard for each availability. Costs include work package planning for an availability based on the updated platform drawings provided by the Planning Yard.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM66, DM102, DM138, DM174, DM210, DM246, DM282, and inputs DM318. These are the respective inputs for Availability Types 2 to 9.

DM31 – Type 1 KTR Mod Effort (PnMth/Av)

Definition: Labor effort (in person months) required for modernization work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM67, DM103, DM139, DM175, DM211, DM247, DM283, and inputs DM319. These are the respective inputs for Availability Types 2 to 9.

DM32 – Type 1 KTR Mod Labor ($K/PnMth)

Definition: Monthly pay rate per person for performing modernization work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM68, DM104, DM140, DM176, DM212, DM248, DM284, and inputs DM320. These are the respective inputs for Availability Types 2 to 9.

DM33 – Type 1 KTR CPM Cost ($K/Av)

Definition: Centrally Provided Material (CPM) cost for modernization work during a Type 1 Contractor Depot Availability. CPM is the acquisition cost of investment funded (Other Procurement, Navy (OPN) and Weapons Procurement, Navy (WPN)) material used in modernization work.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM69, DM105, DM141, DM177, DM213, DM249, DM285, and inputs DM321. These are the respective inputs for Availability Types 2 to 9.

DM34 – Type 1 KTR Mod Materials ($K/Av)

Definition: Materials cost for modernization work in a Type 1 Contractor Depot Availability. This element does not include CPM costs.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM70, DM106, DM142, DM178, DM214, DM250, DM286, and inputs DM322. These are the respective inputs for Availability Types 2 to 9.

DM35 – Type 1 KTR Refuel Effort (PnMth/Av)

Definition: Labor effort (in person months) required for nuclear refueling work during a Type 1 Contractor Depot Availability.

Data Source: N/A

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Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM71, DM107, DM143, DM179, DM215, DM251, DM287, and inputs DM323. These are the respective inputs for Availability Types 2 to 9.

DM36 – Type 1 KTR Refuel Labor ($K/PnMth)

Definition: Monthly pay rate per person for performing refueling work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM72, DM108, DM144, DM180, DM216, DM252, DM288, and inputs DM324. These are the respective inputs for Availability Types 2 to 9.

DM37 – Type 1 KTR Repl Core Cost ($K/Av)

Definition: Cost for the replacement nuclear core in a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: SCN

Note: The same procedure is used for inputs DM73, DM109, DM145, DM181, DM217, DM253, DM289, and inputs DM325. These are the respective inputs for Availability Types 2 to 9.

DM38 – Type 1 KTR Refuel Materials ($K/Av)

Definition: Materials cost (not including the cost of the nuclear core) for refueling work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM74, DM110, DM146, DM182, DM218, DM254, DM290, and inputs DM326. These are the respective inputs for Availability Types 2 to 9.

DM39 – Type 1 KTR Repair Effort (PnMth/Av)

Definition: Labor effort (in person months) required for repair work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM75, DM111, DM147, DM183, DM219, DM255, DM291, and inputs DM327. These are the respective inputs for Availability Types 2 to 9.

DM40 – Type 1 KTR Repair Labor ($K/PnMth)

Definition: Monthly pay rate per person for performing repair work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM76, DM112, DM148, DM184, DM220, DM256, DM292, and inputs DM328. These are the respective inputs for Availability Types 2 to 9.

DM41 – Type 1 KTR Repair Materials ($K/Av)

Definition: Materials cost for repair work during a Type 1 Contractor Depot Availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM77, DM113, DM149, DM185, DM221, DM257, DM293, and inputs DM329. These are the respective inputs for Availability Types 2 to 9.

Impacts

DM42 – During Type 1 Crew Factor (Factor)

Definition: A factor to determine the number of crew retained during an Availability. A value of 0.6 would represent 60% of the crew being retained for the duration of the Availability. This factor is appled equally to all crew types.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM78, DM114, DM150, DM186, DM222, DM258, DM294, and inputs DM330. These are the respective inputs for Availability Types 2 to 9.

DM43 – Post Type 1 Crew Factor (Factor)

Definition: A factor for the crew size after the Availability. The factor is applied to the original crew size. A value of .9 indicates that the original crew size will be reduced by 10%. Use 0 to leave the crew size unchanged from the previous Availability. The factor applies to all crew types.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM79, DM115, DM151, DM187, DM223, DM259, DM295, and inputs DM331. These are the respective inputs for Availability Types 2 to 9.

DM44 – Post Type 1 Age Reductn (Mths/Av)

Definition: Effective reduction in platform age (in months) after the Availability. E.g., an input of 60 will reduce the effective age by 5 yrs at the Availability's completion. This impacts all age related factor curves such as fuel consumption and maint actions, but does not extend the service life.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Note: The same procedure is used for inputs DM80, DM116, DM152, DM188, DM224, DM260, DM296, and inputs DM332. These are the respective inputs for Availability Types 2 to 9.

DM45 – Type 1 Gov Outfit & Spares ($K/Av)

Definition: Cost for Government supplied outfitting and spares for the platform resulting from modifications during the Availability. These costs are due to changes to the platform's Consolidated Shipboard Allowance List (COSAL). The value is applied even if the availability is a KTR availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OPN

Note: The same procedure is used for inputs DM81, DM117, DM153, DM189, DM225, DM261, DM297, and inputs DM333. These are the respective inputs for Availability Types 2 to 9.

DM46 – Type 1 KTR Outfit & Spares ($K/Av)

Definition: Cost for Contractor supplied outfitting and spares for the platform resulting from modifications during the Availability. These costs are due to changes to the platform's Consolidated Shipboard Allowance List (COSAL). The value is applied even if the availability is a Gov availability.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Note: The same procedure is used for inputs DM82, DM118, DM154, DM190, DM226, DM262, DM298, and inputs DM334. These are the respective inputs for Availability Types 2 to 9.

Continuous

DM335 – CM Effort (PnMth/Ship/Yr)

Definition: The amount of labor effort required for continuous maintenance on each platform each year. This is applied pro-rata each month that a platform is IFT. Setting this value to 0 affects only labor costs and not material costs.

Assumption: The datasets assume a default value of 0.

Note: Continuous Maintenance costs are included in VAMOSC Elements 3.2.1 Maintenance - Nonscheduled - Depot - Restricted Availability (RAV) and 3.2.2 Maintenance - Nonscheduled - Depot - Technical Availability (TAV). VAMOSC does not currently break these costs down further, so the user cannot identify how much of these costs make up continuous maintenance. These VAMOSC elements are used to derive dataset values for OSCAM inputs DM5 and DM7. Therefore, to avoid duplicate counting, the mandays listed in the OPNAVNOTE 4700 are not used for the datasets, and the datasets assume a default value of 0.

DM336 – CM Gov Workload Share (%)

Definition: The portion of continuous maintenance work performed by government personnel. Government and KTR material costs (inputs DM 340 and DM 341) accrue regardless of what type of activity performs the work

Assumption: The datasets assume a default value of 0.

DM337 – CM KTR Workload Share (%)

Definition: The portion of continuous maintenance work performed by contractor personnel. This is a calculated field based on 100% - input DM336. Government and KTR material costs (inputs DM 340 and DM 341) accrue regardless of what type of activity performs the work.

Data Source: N/A

Historical dataset methodology: OSCAM automatically calculates this input based on input DM336.

DM338 – Gov CM Labor ($K/PnMth)

Definition: Monthly pay rate per person for continuous maintenance work performed by government personnel.

Assumption: The datasets assume a default value of 0.

Note: Continuous Maintenance costs are included in VAMOSC Elements 3.2.1 Maintenance - Nonscheduled - Depot - Restricted Availability (RAV) and 3.2.2 Maintenance - Nonscheduled - Depot - Technical Availability (TAV). VAMOSC does not currently break these costs down further, so the user cannot identify how much of these costs make up continuous maintenance. These VAMOSC elements are used to derive dataset values for OSCAM inputs DM5 and DM7. Therefore, to avoid duplicate counting, the mandays listed in the OPNAVNOTE 4700 are not used for the datasets, and the datasets assume a default value of 0.

Inflation index: CIV Pay

DM339 –KTR CM Labor ($K/PnMth)

Definition: Monthly pay rate per person for continuous maintenance work performed by contractor personnel.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

DM340 – Gov CM Materials ($K/Ship/Yr)

Definition: Materials purchased by the government for use in continuous maintenance activities. This is applied pro-rata each month that a platform is IFT. Government and KTR material costs (inputs DM 340 and DM 341) accrue regardless of what type of activity performs the work.

Assumption: The datasets assume a default value of 0.

Note: Continuous Maintenance costs are included in VAMOSC Elements 3.2.1 Maintenance - Nonscheduled - Depot - Restricted Availability (RAV) and 3.2.2 Maintenance - Nonscheduled - Depot - Technical Availability (TAV). VAMOSC does not currently break these costs down further so the user can identify how much of these costs make up continuous maintenance. These VAMOSC elements are used to derive dataset values for OSCAM inputs DM5 and DM7. Therefore, to avoid duplicate counting, the mandays listed in the OPNAVNOTE 4700 are not used for the datasets, and the datasets assume a default value of 0.

Inflation index: OMN Purchases

DM341 –KTR CM Materials ($K/Ship/Yr)

Definition: Materials purchased by a contractor for use in continuous maintenance activities. This is applied pro-rata each month that a platform is IFT. Government and KTR material costs (inputs DM 340 and DM 341) accrue regardless of what type of activity performs the work.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

Other

DM342 - Planning Yard Costs ($K/Class/Yr)

Definition: Shipyard (either public or private) costs for serving as the platform class design agent for fleet modernization services. The planning yard is responsible for the Ship Installation Drawings and generates required changes to the drawings when modifications are identified.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Planning Yard \$/ship class/year} = \frac{\left[\text{VAMOSC Element 3.7 Design Services Allocation} + \text{VAMOSC Element 3.8 PERA, SUBMEPP, Planning \& Procurement}\right]}{\text{Years of Data in VAMOSC}}$$

Inflation index: OMNLF Comp

Note: This is a class level cost. This means that the cost will be counted once for each year that there is a ship in service, regardless of number in service.

DM343 - Other Mod Services ($K/Ship/Yr)

Definition: Other Modernization Services costs for each platform each year.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Other Mod services \$/ship/year} = \frac{\text{VAMOSC Element 3.5 Field Change Installation}}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OPN

DM344 - Other Gov Depot Srvs ($K/Ship/Yr)

Definition: Other Government depot maintenance costs for each platform per year. Other depot service costs may include Equipment Rework and Program Office Costs.

Data Source: VAMOSC Ships Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{Other Gov Depot Services \$/ship/year} = \frac{\begin{bmatrix} \text{VAMOSC Element 3.4 Aviation Launch \& Recovery Equipment (ALRE)} + 3.6 \text{ Equipment Rework} + \\ \text{VAMOSC Element 3.9 Other Depot} \end{bmatrix}}{\text{VAMOSC Element A.0 Number of Ships}}$$

Inflation index: OMNLF Comp

DM345 – Other KTR Depot Srvs ($K/Ship/Yr)

Definition: Other Contractor depot maintenance costs for each platform per year. Other depot service costs may include Equipment Rework and Program Office Costs.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

Indirect

IN1 – Installation Support Cost ($K/Class/Yr)

Definition: Installation support costs applied to the platform class. For example, Base Operating Support costs.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

IN2 – Installation Support Cost ($K/Ship/Yr)

Definition: Installation support costs for each platform. For example, Base Operating Support costs.

Data Source: METEOR

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

IN3 – Installation Support Cost ($K/Psn/Yr)

Definition: Installation support costs per person. This takes into account all platform crew members and other unit level personnel assigned to the platform.

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Data Source: METEOR

Historical dataset methodology: Indirect costs for Officer and Enlisted personnel are queried from METEOR. All of the "OMN" costs in the query refer to Installation Support. Only costs paid by DoD are included in the historical datasets. The METEOR $/Officer and $/Enlisted are weighted by the OSCAM dataset average crew size (OSCAM inputs PS3 and PS5) to derive this input IN3.

Inflation index: OMNLF Comp

IN4 – Indirect Personnel Cost ($K/Class/Yr)

Definition: Indirect personnel costs applied to the platform class. These costs may include those activities associated with acquiring, training (prior to first duty station), locating, and supporting military personnel.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

IN5 – Indirect Personnel Cost ($K/Ship/Yr)

Definition: Indirect personnel costs for each platform. These costs may include those activities associated with acquiring, training (prior to first duty station), locating, and supporting military personnel.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

IN6 – Indirect Personnel Cost ($K/Psn/Yr)

Definition: Indirect personnel costs per person for all crew members and other unit level personnel. These costs may include those activities associated with acquiring, training (prior to first duty station), locating, and supporting military personnel.

Data Source: METEOR

Historical dataset methodology: Indirect costs for Officer and Enlisted personnel are queried from METEOR. All of the "MPN/Other" and "MPN-SPA" costs in the query refer to Installation Support. Only costs paid by DoD are included in the historical datasets. The METEOR $/Officer and $/Enlisted are weighted by the OSCAM dataset average crew size (OSCAM inputs PS3 and PS5) to derive this input IN6.

Inflation index: OMNLF Comp

Other

OT1 – SW Maint Class Costs ($K/Class/Yr)

Definition: Annual cost of software maintenance for the platform class. These costs are not dependent on the number of platforms in service each year.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

OT2 – SW Maint Ship Costs ($K/Ship/Yr)

Definition: Annual cost of software maintenance associated with each platform. These costs are applied to the platforms in service each year.

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

OT3 – Gov ETS Class Costs ($K/Class/Yr)

Definition: Annual cost per platform class of providing continued systems engineering and program management oversight to a platform other than during intermediate or depot maintenance. These services are provided by Navy Engineering and Technical Services (NETS).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

Note: This is a class level cost. This means that the cost will be counted once for each year that there is a ship in service, regardless of number in service.

OT4 – Gov ETS Ship Costs ($K/Ship/Yr)

Definition: Annual cost per platform of providing continued systems engineering and program management oversight to a platform other than during intermediate or depot maintenance. These services are provided by Navy Engineering and Technical Services (NETS).

Data Source: VAMOSC Ship Universe

Historical dataset methodology: For each ship class, the following formula is used for the available years of VAMOSC data.

$$\text{ETS \$/ship/year} = \frac{\text{VAMOSC Element 4.3 Engineering and Technical Services}}{\text{A.0}}$$

Inflation index: OMNLF Comp

OT5 – KTR ETS Class Costs ($K/Class/Yr)

Definition: Annual cost per platform class of providing continued systems engineering and program management oversight to a platform other than during intermediate or depot maintenance. These services are provided by Contractor Engineering and Technical Services (CETS).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMNLF Comp

OT6 – KTR ETS Ship Costs ($K/Ship/Yr)

Definition: Annual cost per platform of providing continued systems engineering and program management oversight to a platform other than during intermediate or depot maintenance. These services are provided by Contractor Engineering and Technical Services (CETS).

Data Source: N/A

Historical dataset methodology: Input not populated in historical datasets.

Inflation index: OMN Purchases

OSCAM Ships Acronym List

Term	Air	Navy	Definition
*.CER		Y	OSCAM Cost Estimating Relationships (PCT generated) file
*.CHR		Y	OSCAM Characteristics file
*.CSV	Y	Y	Comma Separated Values file
*.DTF	Y	Y	Data Transfer Format file
*.HIS	Y	Y	OSCAM Historical Database file
*.SEC		Y	OSCAM Secondary / Detailed Database file
*.USE	Y	Y	OSCAM User Database file
*.WBD	Y		OSCAM Detailed Work Breakdown Structure file
*.WBS	Y		OSCAM Simplified Work Breakdown Structure file
*.WNA	Y		OSCAM Workspace file
*.WSH		Y	OSCAM Ship Workspace file
*.WSY		Y	OSCAM Sys Workspace file
3M		Y	OARS Ships' 3-M System – Maintenance and Material Management
A/C	Y		Aircraft
AAAV	Y	Y	Advanced Amphibious Assault Vehicle
AAV	Y	Y	Amphibious Assault Vehicle
AE	Y	Y	Ammunition Ship Class
AE/TAE	Y		Ammunition Ship Class
AFS	Y	Y	Combat Store Ship Class
AIMD	Y		Aircraft Intermediate Maintenance Department
AIRRS	Y		Aircraft Inventory & Readiness Reporting System
AMAF	Y		Type Equipment Code (TEC) for F/A-18C
AOA	Y	Y	Analysis of Alternatives
AOE	Y	Y	Fast Combat Support Ship Class
APU	Y		Auxiliary Power Unit
ASN	Y	Y	Assistant Secretary of the Navy
ATMSR	Y		Aircraft Type Model Series Report (database)
AV-3M	Y		Aviation Maintenance, Material, Management
AVDLR	Y		Aviation Depot Level Repair
BAH	Y		Basic Allowance for Housing
Balancing Loop	Y	Y	Loop in an SD ID with an odd number of –ve links
BAS	Y		Basic Allowance for Subsistence
BCM	Y		Beyond Capability of Maintenance
BOS	Y		Base Operations Support
BUNO	Y		Bureau Number
BUPERS	Y		Bureau of Naval Personnel
C-17	Y	Y	Cargo aircraft
C4I	Y	Y	Command & Control, Communications, Computers and Intelligence
CAGE	Y		Commercial And Government Entity

Term	Air	Navy	Definition
CAIG	Y	Y	Cost Analysis Improvement Group
Cats/Traps	Y		Catapults/Landings with Arresting Gear
CBD	Y	Y	Commerce Business Daily
CERs	Y	Y	Cost Estimating Relationships
CES		Y	Cost Element Structure
CETS	Y		Contractor Engineering Technical Services
CIO	Y	Y	Chief Information Officer
CL		Y	Class
CLS	Y		Contractor Logistic Support
CM		Y	Continuous Maintenance
CNA	Y		Center for Naval Analyses
CNET	Y		Chief of Naval Education and Training
CNO	Y	Y	Chief of Naval Operations
COG	Y		Cognizant Code
COH		Y	Complex Overhaul
COMET	Y	Y	Cost of Manpower Estimating Tool
CONUS		Y	Continental United States (?)
COSAL		Y	Coordinated Shipboard Allowance List
CPM		Y	Centrally Provided Material
CY	Y		Calendar Year
DASN	Y	Y	Deputy Assistant Secretary of the Navy
DAU	Y	Y	Defense Acquisition University
DBs	Y	Y	Databases
DCM		Y	Drydock Continuous Maintenance
DD(X)	Y		Multi-Mission Surface Combatant
Delphi	Y	Y	Programming Language
DEMA		Y	Docking Extended Maintenance Availability
DFAS	Y		Defense Finance and Accounting Service
DLIS	Y		Defense Logistics Information Service
DMDC	Y		Defense Manpower Data Center
DMISA	Y		Depot Maintenance Inter-service Support Agreement
DMP		Y	Depot Modernization Period
DMT	Y	Y	Data Management Tool
DoD	Y	Y	Department of Defense
DON	Y	Y	Department of the Navy
DPIA		Y	Docking Planned Incremental Availability
DPMA		Y	Docking Planned Maintenance Availability
DRPM	Y	Y	Direct Reporting Program Manager
DSRA		Y	Dry-Dock Selected Restricted Availabilities
E5	Y		Enlisted personnel – Petty Officer Second Class (Navy)
ECP		Y	Engineering change proposals
EDSRA		Y	Extended Drydocking Selected Restricted Availability
EFV	Y	Y	Expeditionary Fighting Vehicle
EIC		Y	Equipment Identification Code
Eng	Y		Engine
EOC		Y	Engineered Operating Cycle

Term	Air	Navy	Definition
EOH		Y	Engineered Overhaul
ERO		Y	Engineered Refueling Overhaul
ERP		Y	Extended Relief Period
ESRA		Y	Extended Selected Restricted Availability
ESWBS		Y	Expanded Ship Work Breakdown Structure
ETS		Y	Engineering and Technical Services
F-22	Y	Y	US Air Force Fighter Aircraft (F-22 Raptor program)
FAQs	Y	Y	Frequently Asked Questions
FASH	Y	Y	Future Amphibious Support Helicopter
FHP	Y		Flying Hour Program
FICA	Y		Federal Insurance Contributions Act
FLD		Y	Full Load Displacement
FM&C	Y	Y	Financial Management and Comptroller
FMB	Y	Y	Financial Management Budget (Navy Office of Budget)
FMP		Y	Fleet Modernization Program
FRS	Y		Fleet Readiness Squadron
Ft		Y	Feet
FTE	Y		Full-Time Equivalent
FY	Y	Y	Fiscal Year
HQMC	Y		Headquarters Marine Corps
Hrs	Y	Y	Hours
HVR-CSL	Y	Y	HVR Consulting Services Ltd
IBM	Y	Y	IBM Business Consulting Services
ID	Y	Y	Identifier
ID	Y	Y	Influence Diagram
IDD		Y	Interim Dry-docking
IDSRA		Y	Incremental Docking Selected Restricted Availability
IFT		Y	In Fleet Time
I-Level	Y	Y	Intermediate Level
IMP		Y	Incremental Maintenance Program
INAC		Y	Inactivation Availability
IOC		Y	Initial Operating Capability
IPT	Y	Y	Integrated Product Team
IRR		Y	Combined Inactivation, Reactor Compartment Disposal and Hull Recycling Availability
ISD		Y	In Service Date
ISEA		Y	In Service Engineering Agent
ISRA		Y	Incremental Selected Restricted Availability
IT	Y		Information Technology
IV&V	Y	Y	Independent Verification and Validation
JCN Org	Y		Job Control Number
JP-5	Y		Jet Fuel
JSF	Y		Joint Strike Fighter
LANT & PAC		Y	Atlantic Fleet and Pacific Fleet
LCCE	Y	Y	Life Cycle Cost Estimate
LMDSS	Y		Logistics Management Decision Support System

Term	Air	Navy	Definition
LSD		Y	Light Ship Displacement
M	Y	Y	Meters
M1A1	Y	Y	Abrams tank
MALS	Y		Marine Aviation Logistics Squadron
MALS AUG	Y		Marine Aviation Logistics Squadron Augment
MARCORSYSCOM	Y	Y	Marine Corps Systems Command
MAVD		Y	Materially Available Vessel Days
Max		Y	Maximum
MCC	Y		Monitor command code
MIHA	Y		Moving-In Housing Allowance
Min		Y	Minimum
MMP		Y	Major Maintenance Period
MOD	Y	Y	Ministry of Defence, UK
MOTU		Y	Mobile Technical Unit
MPH	Y	Y	Miles Per Hour
MPN	Y		Military Personnel Navy Appropriation
MSC	Y		Military Sealift Command (database)
MTBR	Y		Mean Time Between Removals
N/A		Y	Not Applicable
NADEP		Y	Naval Aviation Depot
NALC		Y	Naval Ammunition Logistic Code
NAMSR	Y		Naval Aviation Maintenance Subsystem Reporting (database)
NAMSR PLUS	Y		Naval Aviation Maintenance Subsystem Reporting – Expanded (database)
NAPRA	Y		Naval Air Pacific Repair Activity
NATEC	Y		Naval Air Technical Data & Engineering Service Command
NAVAIR	Y	Y	Naval Air Systems Command
NAVICP	Y		Naval Inventory Control Point
NAVSEA	Y	Y	Naval Sea Systems Command
NAVSUP	Y		Naval Supply Systems Command
NAWC-TSD	Y		Naval Air Warfare Center Training Systems Division
NCAD	Y	Y	Naval Cost Analysis Division
NCCA	Y	Y	Naval Center for Cost Analysis
NEC	Y	Y	Navy Enlisted Code
Negative (-ve) Link	Y	Y	SD ID link where an increase/decrease in the influencing variable leads to a change in the opposite direction in the influenced variable
Negative Loop	Y	Y	Loop in an SD ID with an odd number of negative (–ve) links
NETS	Y		Naval Engineering Technical Services
NFO	Y		Naval Flight Officer
NIIN	Y		National Item Identification Number
NMCI	Y		Navy / Marine Corps Intranet
NODES	Y	Y	Navy Obligation Data Extraction System
NOLSC	Y		Naval Operational Logistics Support Center
NPRE	Y		Non-Program Related Engineering
NSWCCD	Y		Naval Surface Warfare Center, Carderock Division
NU		Y	Not Underway

Term	Air	Navy	Definition
O&S	Y	Y	Operating and Support
O3	Y		US Navy Lieutenant
OHA	Y		Overseas Housing Allowance
O-Level	Y	Y	Organizational Level
OMN	Y		Operation and Maintenance Navy Appropriation
OPNAV	Y		Operations Navy
OPTEMPO	Y	Y	Operations Tempo
OSCAM	Y	Y	Operating and Support Cost Analysis Model
OSD	Y	Y	Office of the Secretary of Defense
OSD(C)	Y		Office of the Secretary of Defense Comptroller
PA&E	Y	Y	Program Analysis and Evaluation
PCS	Y	Y	Permanent Change of Station
PCT		Y	Parametric Costing Tool
PDM	Y		Program Depot Maintenance
PEBD	Y		Pay Entry Base Date
PEMA		Y	Pierside Extended Maintenance Availability
PEO IWS 3	Y		Program Executive Office for Integrated Warfare Systems
PIA		Y	Planned Incremental Availability
PIRA		Y	Pre-Inactivation Restricted Availability
PLCCE	Y	Y	Program Life Cycle Cost Estimate
PM	Y		Program Manager
PM		Y	Planned Maintenance
PMA	Y		Program Manager Aviation (NAVAIR PMA-271)
PMA		Y	Planned Maintenance Availability
POCs	Y	Y	Points of Contact
POL		Y	Petroleum, Oils and Lubricants
POM	Y	Y	Program Objective Memorandum
Positive (+ve) Link	Y	Y	SD ID link where an increase/decrease in the influencing variable leads to a change in the same direction in the influenced
Positive Loop	Y	Y	Loop in an SD ID with an even number of negative (–ve) links
Powersim	Y	Y	System Dynamics Software
PRE	Y		Program Related Engineering
PRL	Y		Program Related Logistics
PROG		Y	Progressive Maintenance
PSA		Y	Post Shakedown Availability
PwC		Y	PricewaterhouseCoopers
R&D		Y	Research and Development
RAM	Y		Rolling Airframe Missile
RAND	Y		A nonprofit research and analysis institution
RAV		Y	Restricted Availability Depot Level Repair
RCM		Y	Reliability Centered Maintenance
RCOH		Y	Refueling Complex Overhaul
RD&A	Y	Y	Research, Development and Acquisition
Reinforcing Loop	Y	Y	Loop in an SD ID with an even number of negative (–ve) links
RFP	Y	Y	Request For Proposal
ROH		Y	Regular Overhauls

Term	Air	Navy	Definition
ROH		Y	Regular Overhaul
RPM	Y		Real Property Maintenance
R-TOC	Y	Y	Reduced-Total Ownership Cost
RUC	Y		Reporting Unit Code
S/W		Y	Software
SCO		Y	Service Craft Overhaul
SD	Y	Y	System Dynamics
SEAOPDET	Y		Sea Operational Detachment
SECNAV	Y		Secretary of the Navy
SER	Y		Serial Number
SHU		Y	Steaming Hours Underway
SIMAs		Y	Shore Intermediate Maintenance Activities
SPAWAR	Y	Y	Space and Naval Warfare Systems Command
SPO	Y	Y	System Program Office
SRA	Y		Shop Replaceable Assemblies
SRA		Y	Selected Restricted Availability
SW	Y	Y	Software
Sys		Y	Shipboard Systems
TAD	Y	Y	Temporary Additional Duty
T-ADC(X)	Y	Y	Auxiliary Dry Cargo Carrier
TAFS	Y		Combat Store Ship Class
T-AKE	Y	Y	Advanced Auxiliary Dry Cargo Ship
TAV		Y	Technical Availability Depot Level Repair
TD	Y		Technical Directive
TDY	Y		Temporary Duty
TESS		Y	Tactical Environmental Support System
TMS	Y		Type Model Series
TOC	Y	Y	Total Ownership Cost
UIC	Y	Y	Unit Identification Code
USAF	Y	Y	United States Air Force
USMC	Y	Y	United States Marine Corps
V	Y	Y	Version
V&V	Y	Y	Validation and Verification
VAMOSC	Y	Y	Visibility and Management of Operating and Support Costs (database)
Ver	Y	Y	Version
VHA	Y		Variable Housing Allowance
Vs.		Y	Versus
WBS	Y	Y	Work Breakdown Structure
WRA	Y		Weapons Replaceable Assemblies
WUC	Y		Work Unit Code
Yr		Y	Year